

ABSTRACT OF THE DISCLOSURE

A wheel support bearing assembly with a load sensor, in which the load sensor for detecting a load on a vehicle wheel can be compactly disposed, 5 includes an outer member (1) having plural raceways (4) in an inner peripheral surface thereof, an inner member (2) made up of a hub axle (2A) and an inner race (2B) on an inboard end of the hub axle (2A). The inner member (2) has raceways (5) in the hub axle (2A) and the inner race (2B) confronting the raceways (4). Rows of rolling elements are interposed between the raceways (4) 10 and (5) for supporting the vehicle wheel rotatably. A to-be-detected member (2b) as a magnetostrictive element is formed between an inboard end of the hub axle (2A) and the raceway (5). Force detecting unit for detecting a change in magnetic strain in the to-be-detected member (2b) is provided in an outer race.